Serial No: 10/624,629

ABSTRACT OF THE DISCLOSURE

Please replace the Abstract with the following:

An HQ tube arrangement suitable for packaging within a vehicle may be designed by creating a mathematical model representing a tube arrangement having a first passageway and a second passageway fluidly connected to the first passageway at first and second junctions. The second passageway is divided by the junctions into first, second, and third passages. Lengths may be are associated with each of the first passageway and the first, second, and third passages to produce a particular length combination. A filter parameter, which may be passed based upon an average transmission loss for a particular frequency over a standard deviation, is analyzed as a function of the lengths. Lengths are chosen based upon analysis of the filter parameter. calculated for the particular length combination. Other lengths may be associated with the tube arrangement to calculate other filter parameters for the other length combinations. One of the length combinations for the HQ tube arrangement may be selected based upon desired parameters including the filter parameter and tube arrangements having the shortest first passageway, which lends itself to a more compact tube arrangement that is more easily packaged within the confines of a vehicle. Portions of the outer walls of the first and second passageways may be secured to or common to one another so that lengths of the passageways run along side of each other to provide a more compact HQ tube arrangement.

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